The MINES of ARIZONA

This department is under the direction of Mr. W. E. Defty, the well known mining engineer, who will carefully scrutinize all matters relating to mining in order that only reliable information relegitimate enterprises

shall find a place here. The Republican would be pleased to receive information from any part of the state regarding the development of the mining industry. All communications should be addressed: Mining Department Arizona Republican.

Conditions The copper market during the past weel: has developed an extraordinary fleatation process at Inspiration. strong tendency as all factors have There has been improvements in millfrom domestic as well as foreign the most important discovery and sucenough to cover the enormous require- carbonate ores at Ajo, (New Cornella ments which are inquired for, has Copper Co.) caused a scramble for copper princi-pally from demestic consumers, who or old ones are very important to the

good its continuing to be so. ing up considerably and more than for added to. a long time past. We learn from all | Pacilities for shipping ore has greatquarters that old silver properties are by improved. A new narrow guage receiving renewed attention and espec-fally old damps. This is made possible Arizona and Eastern at Webster to the b, the successful adoption of the float- Magma mine at Superior. This has grade over at lower cost than any pre- especially the handling of small viously adopted process. The farer batches of ore. metals are receiving a great deal of The railroad from Gila Bend to Ajo attention, especially tungsten. The is under construction and will be buyers for this metal are in the field completed by the beginning of the year, personally to secure its purchase in Although built for the sole accommo

the form or quantity. Kingman was an important mining and requirement. Then Arizona will center thirty years ago and the diffi- come by her own, culties and fack of facilities were a hundred fold what they are today, But !

The improvements and advances locations are made without mineral themis in Arizona have been varied and discovery.

thoug, and means much for the future
It has been held by the Land De-

he modification of smelter charges.

been mainly in properties turned over one making a discovery first. under contracts and options and some

maller cash deals. Probably the most important and permanent gold discovery is the Unit-ed Eastern at Outman. In coopers Shattuck has developed the greatst diversity of ores. The Ray Hercules and the Magma at Superior have roven an additional area of their disseminated ores by drilling. The Herules has at present two drills in operation and two additional ones will General Review of Metals and Mining be operating within the next ten days. in milling probably the most notable

dvancement is the perfecting of the combined to favor the strong position, ing processes at Tom Reed, Catman, Unprecedented demand for copper Commonwealth mine and Pearce. But cauces coupled with the fact that the cessful determination in ore treatment bresent entire output of the refineries is the perfecting of the process for exof 100,000,000 lbs, monthly is not large tracting the values from the copper

base held back their orders two long, state. Foremost stands the large plant waiting for metal. The price of the at Clarksdale, (Jerome) additions and metal is around 10c, with a strong improvements at the Humboldt, new upward tendency and all conditions smelter of Arizona Copper and others of minor importance. The new year The condition of silver is brighten- will see these advancements greatly

ation process, being able to treat lower helped the district considerably and

dation of the New Cornella company There is a great deal of attention it will assist mining developments con and investigation being centered all tignous to its course. There are many over Arizona, the central point of at- other boints of interest that might be traction being of course the wonderful called attention to. But the great tertman district. An endless amount boom and endeavor for the successful of buncambe and bash is being written advancement of all Arizona interests smartling the district and this is hash- will come, when those already intered and relashed until it absolutely ested and those outside willing to leses its effectiveness. The discovery come in are given the assurance that another mine will go more to aid the Arizonians to a unit will offord all helders have the promise of substandistrict in present and future develop- heliculiness and a square deal to all ment than all the etherial notices that and it seems very evident the citian he written. The district around zens are ready to meet this demand

Location of a Mining Claim the wild cat is ever prowling around Location of a mining claim is not a new camp and the small speculator valid unless based on a mineral disis ever ready to take a chance in covery within the lines and on the what is openly declared to be a gam- actual ground of the claim, although it is known that a large number of

n mining in all its phases. 'The only partment at Washington and by many Not on the horizon is the strike at courts, that a valid location of a mining claim may be made whenever the The advantages to the ore shipper prospector has discovered any indicahas been made manifest by the low- tions of mineral, so that he is willing

it with the expectation of finding ore." terests after the 80 per cent their ground examined by a federal ay was declared preconstitutional by government mineral examiner. The he supreme court of the United States | position of a locator attempting Now if we can avoid the addition of boid a location without a mineral dis any further feat laws of this nature covery cannot be fully defined. The

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fally while trying in good faith law, other locators are also entitled to go upon the ground, so long as it can our state we will soon see it ablaze fering with the first claimant and un with attention and development. As der such conditions to attempt to it is there has been a great many important mining deals but they have rival claimants the claim goes to the

Exposed Reef Mine

This property near Patagonia and omprising four claims has been leased to Dowd and Shannon, for a period of two years. The mine is owned by Albert Des Saulles and J. B. Shannon of Bisbee The property has a tunnel 75 feet in length which cuts a six for iedge of seven per cent copper ore and rold and silver.

The property is situated two mile outheast of Patagonia in Alum Gulch at the south end of Red Mountain, beween the old Flux mine and the well known World's Fair, silver mine.

of \$1 per share.

It is estimated that Calumet & Arimancing the development and equip- gin. nent of the New Cornelia 1 coperty and that the treasury is now in shape for the carnings.

Taking the price of copper at 18c and lished on a zee basis, dividends on Calumet & Arizona should be far larger than those declared so far.

Old Dominion

Old Dominion is now earning at more han double that rate but owing to the months will not equal the present rate. Old Dominion is, however, now in plendid shape for the future and with market around current prices stock fally higher dividends next year. Old Dominion of Maine, the holding ompany, has declared a quarterly di-

cidend of \$1.50 a share. in March Old Dominion paid 50 ents, in June \$1 and in September

With the current declaration of \$ share, Old Dominion will have paid total of \$25 a share or \$7,020,487. Costs at the Old Dominion are reported around \$1-2c, on a production expected to be about 30,000,000 pound for the current year. The output was diminished considerably by reason of the spring floods.

The new Inspiration mill at Miami is now handling 5000 tons of ore a day and is to be worked up gradually, upon one; freight rates to the smelters and to spend his time and money following units, to full capacity of 14,000 tons. completion of additional concentration This it is expected will be reached it

pounds a mouth will nearly be trebled next year. With copper at is cents, the increased output's valu ould reach the astonishing total of \$16,500,000 annually. The production ast is expected to be even less than cents a pound. The November turnout of copper i

spected to reach 6,000,000 pounds. Ray Consolidated

The Ray Consolidate! will pass th 60,000 pounds mark in copper yield ents a pound, showing a profit of bout \$6,500,000. At the end of th ear the company will convert into tock a bond issue of \$2,380,000. The easury surplus now is over \$5,000,000

Magma

Owing to the richness of the or disted, even a lower cost is reported om the Magma property at Superior here, it is asserted copper is being This mine has a small concentration mill, but is shipping its richer ores. The Magma, controlled by the Hayden-Stone corporation, is one of the remarkable mines of the southwest and the wonder is that it is not operated en a much larger scale.

The Pittsburg Tungsten company thich have been holding and operating teir cupro-tungstate properties in Cave Creek 35 miles north of Phoenix, re increasing their working force con derably for the purpose of extracting s much of the ore as possible during he high price of the metal. Developients have been carried on very metly during the last year but sufcient ground has been opened up to nable mining of the ore to be carried n much more extensively. Some of the ore from this property beautiful in appearance and fre-

Abundance of Aluminum Aluminum is the most abundant of It the metals. In the form of its exide, lumina, it constitutes about 15 per ent of the earth'; crust. Yet until reveurs it was a curiosity; there ere only a few hundred or few then and pointds in existence and its valu was \$14 or \$15 a pound. Within a gen ration it has become very useful, not elling at about 20 cents a pound. Th entry of aluminum into the field o seful metals came with the discovery that it could be extracted from the mineral bauxide, a clay-like substance This mineral itself is by no means plentiful, but known deposits are sufficient to make aluminum an important competitor of certain metals, such

uently carries fine metallic elements

nes of work. Already aluminum has displaced teel in certain classes of construction where strength is required in combin tion with extreme lightness, such as claimed to have qualities as good ;

as copper and tin, in a good many

HARNESSING OF THE COLORADO

Surveyors Have Left Phoe-Power Sites-Mighty Im- ters, This dain has since teeted by extensive patents, Depends on Juice Supply

urpose the supplying of electric filled the requirements, all of then sower to nearly every mining comnunity in Arizona and Southern Cat- The United States government ha fornia, will be in working order in refused to adow any dams to be perhaps eighteen months. what is to be done when the mighty sequently all of the sites had to be forces of the Colorado river are prop-located above this stretch of the river. strain and quickly replaces the natural elas-sels bathessed and the territic power. The first of these sites to be de-

which have heretofore stood in the way of the successful carrying out cd to develop something like 50,000 cona had set aside sufficient for the of the project, the construction work horsepower, and this can successful ompany's subscription to \$2,000,000 on the enormous dams and power be transmitted up to a distance of envertible bonds to be issued for fi- plants and stations is about to be- three bundred miles, or within

hing like 8000 feet in the Colorado enterprises of the northern part of ividends more nearly approximating river between the mouth and the this state and Southern California to Ray surce, and according to figures made receive electric power from the new public by the geological survey, its source. the company is believed to be earning annual mean discharge is from 25,000. It is understood that both the San-ut the rate of \$12 per annum so that to 20,000 second feet, which if it to Fe and the Southern Pacific roads with the metal market firmly estab-could all be harnessed, would develop have made inquiries regarding the a horsepower reaching the staggering possibility of securing electric power total of possible twenty million from the new project for the purpose total of nearly twenty million.

een a number of seemingly insur- sions in that part of the country, mountable obstacles which have con- peckelly in the neighborhood of spired to prevent any of this vast continental divide. And it is all water troubles early in the year the practical use. In the first place, the Ajo and Cornella may later be supproduction will be slightly less than geographic condition of the country plied with the juice generated by or last year and earnings for the 12 was such that year few available the Colorado. power sites could be found on ac-count of the steep and rock country of valuable ore which is located in the the prospects of a sustained metal thing which had to be considered zons, a region which needs only am

> saled, and its melting point is above 200 degrees F. The great future of luminum Hes in the perfection of a process whereby it can be commercally extracted from the unlimited deosits of alumina-rich clays and ocks, which exist in all parts of the orld. The day which shall yield cheap aluminum holds oundless possibilities. The chemis r investigator who can devise the ceded process of extraction will not forgotten by succeeding genera

Quartzite

A great deal of attention is being overy of the auriferous placer fro the very large area of gravel. Al these areas have been worked for th ast 50 years by the primitive operaon of dry washers and a very larg mount of gold has been recovered b this method.

The present effort is to save th old contents by the use of muchinery this of course by the dry process, as the country is unterless. Quennier pulverizing machines are

ing used by the various operator disintegrate the cemented gravel the latter being caried to a Stebbin iry concentrator, so far the test open tions have proven highly satisfactory but actual operations to capacity have ot been started. But there are fou ompunies which are very near th ompletion point of their plants the access of these will be watched wit interest. There is no question of doub bout the extensive areas of gravel and their corrying gold in remanerative

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he mad waters was swept away and work, othing had ever been built which After a thorough study of the mat-

dam, or one constructed of a number when flood time came, could be opened so as to permit an almost unob nix to Explore Girand's structed sweep of the ourushing wa ters. This dam has since been pro

petus to Mining Activity | Then came the matter of selecting ome available sites, and following ar exploration of the Canyon for a per ied covering over two years, Mr. G. A project which has for its ultimate rand was able to find six which about

erly harnessed and the terrific power | The first of these sites to be deof that swirling stream actually put veloped is one which is but 21 miles its painful consequen The directors of the Calumet & Arizona
The directors of the Calumet & Arizona will meet on Dec. 7 to take action on the quarterly dividend. A dividend of \$1 was paid in the last quarter will be of the year and it is expected that the dividend for the last quarter will be an increase over the previous dividend.

radius of sufficiently large proportion to enable a majority of the mining

However, in the past there have of electrifying their mountain div amount of power being put to any stated that the new copper mines a practical use. In the first place, the Ajo and Cornella may later be sup-

brough the river passes. Another northern wilds of the state of Ariwas the rampage in which that sullen ple power furfitles in order to bestream indulges at least once a year, come highly developed, it can be unand at these flood times everything derstood just how great will be the benefit of such a power system, and on the completion of the enterprise ose of good Bessemer steel, stibough one can look for some unprecedented is only one-third as heavy. This all activities in the way of developments y possesses great imrdness when an- in the territory which will be served

offer the most attractive induce ments in the investment world to lay, and here are two, concerning which we would be pleased to giv on information. We refer to

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hich happened to be in the path of electrically by this most important

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